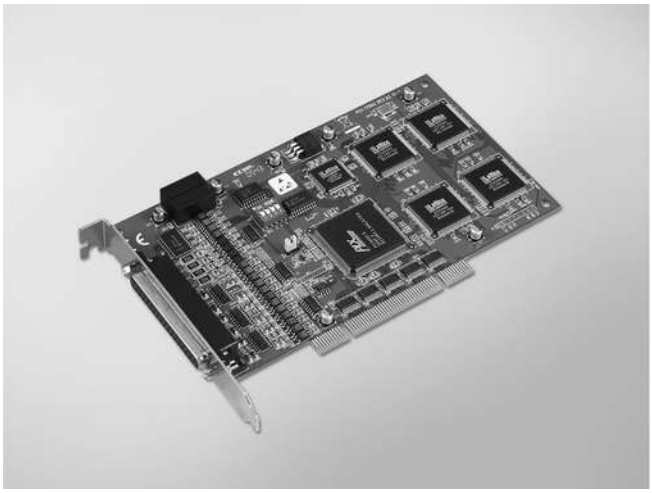
PCI-1784U

4-ch, 32-bit Encoder Counter Universal PCI Card with 8-ch Isolated Digital I/O



Features

- Four 32-bit encoder counters
- Single-ended or differential inputs
- Quadrature (x1, x2, x4), pulse/direction, and up/down counting modes
- Optically isolated up to 2,500 VDC
- 4-stage digital filter with selectable sampling rate
- On-board 8-bit timer with wide range time-base selector
- Multiple interrupt sources for precision applications
- 4 isolated digital inputs and 4 isolated digital outputs
- BoardIDTM switch

Introduction

PCI-1784U is a 4-ch encoder counter universal PCI card. It includes four 32-bit encoder counters, 8-bit timer with multiple range time-base selector, 4 isolated digital inputs, and 4 isolated digital outputs. Its flexible interrupt sources are suitable for motor control and position monitoring.

Specifications

Encoder Counter

- **Channels** 4
- **Resolution** 32 bits
- **Counting Modes** Quadrature, pulse/direction, or up/down
- **Max. Input Frequency** 8 MHz for pulse/direction and up/down modes
2 MHz for quadrature mode without digital filter
1 MHz for quadrature mode with digital filter
- **Digital Filter** 4 stages
- **Isolation** 2,500 V_{DC}
- **Sample Clock Frequency** 8, 4, 2, or 1 MHz
- **Interrupt Sources** Overflow, underflow, index status, counter over compare, counter under compare
- **Input Voltage** Single-ended:
Logic 0: 0.8 V max.
Logic 1: 2.8 V min. (12 V max.)
Differential:
Logic 0: -0.2 V max. (-12 V min.)
Logic 1: 0.2 V min. (12 V max.)

Isolated Digital input

- **Channels** 4
- **Input Voltage** Logic 0: 3 V max
Logic 1: 10 V min. (30 V max.)
- **Interrupt Capable** All 4 channels
- **Isolation** 2,500 V_{DC}
- **Opto-Isolator Response** 100 µs
- **Overvoltage Protection** 70 V_{DC}

Isolated Digital Output

- **Channels** 4
- **Output Voltage** Logic 0: 0.8 V max.
Logic 1: 2.0 V min.
- **Output Capability** 50 mA @ 0.8 V
-50 mA @ 2.0 V
- **Isolation** 2,500 V_{DC}
- **Opto-Isolator Response** 2 µs

General

- **Bus Type** Universal PCI V2.2
- **Connector** 37-pin D-sub female
- **Dimension (L x H)** 175 x 100 mm^2 (6.9" x 3.9")
- **Power Consumption** Typical: +5 V @ 200 mA
Max.: +5 V @ 450 mA
- **Operating Temperature** 0 ~ 60°C (32 ~ 140°F)
- **Storage Temperature** -20 ~ 70°C (-4 ~ 158°F)
- **Storage Humidity** 5 ~ 95% RH, non-condensing (refer to IEC 68-2-3)
- **Certification** CE

Ordering Information

- **PCI-1784U** 4-ch encoder counter universal PCI card
- **PCL-10137H-3E** High-speed DB37 cable, 3 m
- **ADAM-3937** DB37 DIN-rail wiring board

All product specifications are subject to change without notice

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